

**Abstract**

A prosthesis system replaces a natural facet joint between adjoining inferior and superior vertebral bodies. The prosthesis system employs a caudal prosthesis accommodating fixation to the inferior vertebral body at or near a pedicle and without support by a lamina. The caudal prosthesis has an artificial caudal facet joint structure adapted and configured to replace all or a portion of a caudal portion of the natural facet joint (i.e., a superior articular process). The prosthesis system further employs a cephalad prosthesis accommodating fixation to the superior vertebral body at or near a pedicle and without support by a lamina. The cephalad prosthesis has an artificial cephalad facet joint structure adapted and configured to replace all or a portion of a cephalad portion of the natural facet joint (i.e., an inferior articular process). The artificial cephalad facet joint structure is adapted and configured to articulate with the artificial caudal facet joint structure, thereby forming an artificial facet joint between the adjoining vertebral bodies.